

**High-Speed Train
Network Alternatives Costs
Summary**

	Stations Included	Segment Length km	Segment Length miles	Average Total Cost \$/km	Average Total Cost \$/mile	Segment Costs	Station Costs	TOTAL COSTS	
A ALTAMONT PASS									
1	San Francisco and San Jose Termini	S2, S5, S6, S7, S12, S15, S21, S25, S27	327.24	203.34	\$38,880,394	\$62,571,929	\$10,972,862,793	\$1,750,428,628	\$12,723,291,421
2	Oakland and San Jose Termini	S3, S5, S9, S10, S15, S21, S25, S27	293.17	182.16	\$35,527,146	\$57,175,400	\$8,575,425,642	\$1,839,925,710	\$10,415,351,352
3	San Francisco, Oakland, and San Jose Termini	S2, S3, S5, S6, S7, S9, S10, S15, S21, S25, S27	388.12	241.16	\$39,782,765	\$64,024,155	\$12,717,546,470	\$2,722,781,285	\$15,440,327,755
4	San Jose Terminus	S5, S12, S15, S21, S25, S27	257.78	160.18	\$30,472,522	\$49,040,771	\$6,830,741,966	\$1,024,586,693	\$7,855,328,659
5	San Francisco Terminus	S2, S6, S7, S15, S21, S25, S27	308.27	191.55	\$35,514,873	\$57,155,648	\$9,295,774,550	\$1,652,537,408	\$10,948,311,957
6	Oakland Terminus	S3, S9, S10, S15, S21, S25, S27	274.97	170.86	\$29,700,584	\$47,798,456	\$6,898,337,399	\$1,268,432,060	\$8,166,769,459
7	Union City Terminus	S10, S15, S21, S25, S27	254.16	157.93	\$24,384,156	\$39,242,495	\$5,357,942,113	\$839,534,903	\$6,197,477,016
8	San Francisco, and San Jose - via SF Peninsula	S2, S5, S6, S7, S8, S15, S21, S25, S27	343.27	213.30	\$36,610,361	\$58,918,664	\$10,662,279,160	\$1,905,105,755	\$12,567,384,915
9	San Francisco, San Jose, and Oakland - with no San Francisco Bay Crossing	S2, S3, S5, S6, S7, S9, S10, S15, S21, S25, S27	393.81	244.70	\$36,713,165	\$59,084,112	\$12,121,598,757	\$2,336,339,425	\$14,457,938,182
10	Oakland, and San Francisco - via Transbay Tube	S2, S3, S9, S10, S15, S21, S25, S27	289.11	179.64	\$45,163,199	\$72,683,123	\$10,860,031,797	\$2,197,100,588	\$13,057,132,385
11	San Jose, Oakland and San Francisco - via Transbay Tube	S2, S3, S5, S9, S10, S15, S21, S25, S27	320.44	199.11	\$46,558,999	\$74,929,445	\$12,537,120,041	\$2,382,152,378	\$14,919,272,418
P PACHECO PASS									
1	San Francisco and San Jose Termini	S2, S5, S6, S8, S23, S26, S27	430.55	267.53	\$28,771,881	\$46,303,853	\$11,028,569,783	\$1,359,019,515	\$12,387,589,298
2	Oakland and San Jose Termini	S3, S5, S9, S10, S23, S26, S27	413.40	256.87	\$27,973,967	\$45,019,736	\$10,345,348,109	\$1,218,949,918	\$11,564,298,026
3	San Francisco, Oakland and San Jose Termini	S2, S3, S5, S6, S8, S9, S10, S23, S26, S27	498.26	309.60	\$32,098,678	\$51,657,815	\$13,891,521,223	\$2,101,805,493	\$15,993,326,716
4	San Jose Terminus	S5, S23, S26, S27	343.04	213.15	\$23,200,433	\$37,337,478	\$7,482,396,668	\$476,163,940	\$7,958,560,608
5	San Jose, San Francisco and Oakland - via Transbay Tube	S2, S6, S7, S26, S27	444.69	276.31	\$36,016,452	\$57,962,861	\$14,990,264,181	\$1,025,711,680	\$16,015,975,861
6	San Jose, Oakland and San Francisco - via Transbay Tube	S2, S3, S5, S9, S10, S23, S26, S27	427.54	265.66	\$38,154,198	\$61,403,229	\$14,307,042,507	\$2,005,212,335	\$16,312,254,842
PA PACHECO PASS WITH ALTAMONT PASS (LOCAL SERVICE)									
1	San Francisco and San Jose Termini	S2, S5, S6, S8, S23, S25, S27	545.83	339.16	\$32,351,814	\$52,065,199	\$16,299,474,324	\$1,359,019,515	\$17,658,493,839
2	Oakland and San Jose Termini	S3, S5, S9, S10, S23, S25, S27	512.50	318.45	\$30,435,986	\$48,981,972	\$14,379,523,442	\$1,218,949,918	\$15,598,473,359
3	San Francisco, Oakland and San Jose Termini (with Dumbarton Bridge)	S2, S3, S5, S6, S8, S9, S10, S23, S25, S27	629.32	391.04	\$34,942,461	\$56,234,439	\$19,888,148,879	\$2,101,805,493	\$21,989,954,371
4	San Francisco, Oakland and San Jose Termini (without Dumbarton Bridge)	S3, S5, S9, S10, S23, S25, S27	580.81	360.90	\$32,961,921	\$53,047,070	\$17,925,696,556	\$1,218,949,918	\$19,144,646,474
5	San Jose Terminus	S5, S23, S25, S27	460.34	286.04	\$28,118,750	\$45,252,742	\$12,467,937,131	\$476,163,940	\$12,944,101,071

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length		Avg Cost \$/mile	Segment/Station Costs	
		km	miles		\$/km	\$/mile
ALTAMONT PASS						
A1 - San Francisco and San Jose Termini		327.24	203.34	\$33,531,358	\$53,963,489	\$10,972,862,793
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend		5.00	3.11	\$79,761,189	\$128,363,191
Caltrain 2	4th/Townsend to Millbrae/SFO		28.61	17.78	\$35,793,741	\$57,604,443
Caltrain 3	Millbrae/SFO to Redwood City		18.75	11.65	\$37,489,586	\$60,333,640
Caltrain 4	Redwood City to Caltrain		0.75	0.47	\$88,577,366	\$142,551,453
Dumbarton (High Bridge)		Subtotal	28.71	17.84	\$67,921,596	\$109,309,214
Dumbarton-XN	Dumbarton Wye North to Caltrain		1.20	0.75	\$134,496,341	\$216,450,879
Dumbarton-1 (High Bridge)	Dumbarton Bay Crossing to Don Edwards		10.01	6.22	\$88,615,763	\$142,613,246
Dumbarton-2 (High Bridge)	Dumbarton Bay Crossing to Don Edwards		13.00	8.08	\$60,644,584	\$97,597,998
UPRR-1	Shinn to Niles Canyon		4.50	2.80	\$25,166,985	\$40,502,336
Niles/I-880 (Niles Junction to San Jose via I-880)		Subtotal	22.45	13.95	\$49,012,551	\$78,878,055
Niles/I-880 5B	Niles Wye (S) to Warm Springs		8.45	5.25	\$16,691,618	\$26,862,555
Niles/I-880 6	Warm Springs to Trimble Rd		2.35	1.46	\$212,457,836	\$341,917,743
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon		11.65	7.24	\$39,485,982	\$63,546,529
East Bay Connection (Dumbarton/Niles XS)		Subtotal	8.88	5.52	\$64,964,684	\$104,550,525
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)		8.88	5.52	\$64,964,684	\$104,550,525
UPRR (Niles to Altamont)		Subtotal	39.77	24.71	\$42,257,804	\$68,007,343
UPRR-2A/2B	Niles Canyon to Sunol		6.27	3.90	\$99,895,152	\$160,765,663
UPRR-3	Sunol to Pleasanton		3.30	2.05	\$44,840,606	\$72,163,960
UPRR-4	Pleasanton to El Charo		2.59	1.61	\$26,410,969	\$42,504,335
UPRR-5	El Charo to Livermore		6.61	4.10	\$7,127,268	\$11,470,225
UPRR-6	Livermore to Patterson Pass cut off		3.25	2.02	\$22,896,022	\$36,847,576
UPRR-7	Patterson Pass cut off to Greenville		2.98	1.85	\$18,326,922	\$29,494,322
UPRR-8	Greenville to Altamont Pass		11.27	7.00	\$53,967,010	\$86,851,484
UPRR-9	Altamont Pass to County Line		3.50	2.18	\$15,283,791	\$24,596,878
Tracy Downtown (UPRR Connection)		Subtotal	48.26	29.98	\$19,223,066	\$30,936,526
UPRR-10	County Line to Tracy Downtown		12.35	7.67	\$24,741,185	\$39,817,078
UPRR-11	Tracy Downtown to I-205		7.40	4.60	\$15,859,194	\$25,522,899
UPRR-12	I-205 to S. UPRR		7.80	4.85	\$15,933,589	\$25,642,626
UPRR-13	I-205 to Lathrop - Northern		13.14	8.16	\$18,113,361	\$29,150,629
MC-1	Southwestern Manteca		1.46	0.91	\$27,687,372	\$44,558,506
MC-2	Southeastern Manteca		1.83	1.14	\$25,102,875	\$40,399,161
MC-4	Manteca to Escaton Wye		4.28	2.66	\$13,118,552	\$21,112,263
UPRR (Central Valley)		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop		8.00	4.97	\$13,627,270	\$21,930,965
UPRR N/S-2	Lathrop through Manteca		8.70	5.41	\$21,359,159	\$34,374,234
UPRR N/S-3	Manteca South to BNSF/UPRR		3.30	2.05	\$7,761,402	\$12,490,765
UPRR N/S-4	BNSF/UPRR South to Modesto		18.50	11.50	\$15,559,246	\$25,040,179
UPRR N/S-5a *	UPRR Modesto South - Western Option		4.20	2.61	\$84,115,056	\$135,370,061
UPRR N/S-6	South Modesto to BNSF Connection		20.90	12.99	\$21,150,677	\$34,038,714
UPRR N/S-7	BNSF Connection South to Merced		33.25	20.66	\$16,572,019	\$26,670,079
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th & King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S11	Union City (Shinn)					\$310,150,400
S12	Fremont (Warm Springs)					\$156,875,180
S5	San Jose (Diridon)					\$185,051,790
S15	Pleasanton (I-680/Bernal Rd)					\$72,639,578
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
ALTAMONT PASS						
A2 - Oakland and San Jose Termini		293.17	182.16	\$29,251,092	\$47,075,069	\$8,575,425,642
<i>Niles/I-880 (West Oakland to Niles Junction)</i>						
Subtotal		44.26	27.50	\$36,053,254	\$58,022,088	\$1,595,717,028
Niles/I-880 1A	West Oakland to Jack London Square	9.04	5.62	\$7,292,648	\$92,203,579	\$517,810,948
Niles/I-880 2	Jack London Square to Oakland Coliseum	3.75	2.33	\$8,026,798	\$93,385,080	\$217,600,493
Niles/I-880 3A	Oakland Coliseum to Union City (BART)	8.02	4.98	\$100,347,026	\$161,492,885	\$804,983,844
Niles/I-880 4A	Union City (BART) to Niles Junction	23.45	14.57	\$2,359,136	\$3,796,662	\$85,321,742
<i>Niles/I-880 (Niles Junction to San Jose via I-880)</i>						
Subtotal		22.45	13.95	\$49,012,551	\$78,878,055	\$1,100,331,777
Niles/I-880 5B	Niles Wye (S) to Warm Springs	8.45	5.25	\$16,691,618	\$26,862,555	\$141,044,170
Niles/I-880 6	Warm Springs to Trimble Rd	2.35	1.46	\$212,457,836	\$341,917,743	\$499,275,914
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon	11.65	7.24	\$39,485,982	\$63,546,529	\$460,011,694
<i>East Bay Connection (Dumbarton/Niles XN & YS)</i>						
Subtotal		4.25	2.64	\$170,597,817	\$274,550,573	\$725,723,114
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles YS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)	8.88	5.52	\$64,964,684	\$104,550,525	\$576,756,466
<i>UPRR (Niles to Altamont)</i>						
Subtotal		43.25	26.87	\$38,855,518	\$62,531,895	\$1,680,501,168
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
<i>Tracy Downtown (UPRR Connection)</i>						
Subtotal		48.26	29.98	\$19,223,066	\$30,936,526	\$927,628,261
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
<i>UPRR (Central Valley)</i>						
Subtotal		134.95	83.85	\$18,862,722	\$30,356,608	\$2,545,524,294
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S3	West Oakland/7th Street					\$786,262,418
S9	Coliseum/Airport					\$29,076,600
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$69,853,070
S5	San Jose (Diridon)					\$185,051,790
S15	Pleasanton (I-680/Bernal Rd)					\$316,675,328
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
ALTAMONT PASS						
A3 - San Francisco, Oakland, and San Jose Termini		388.12	241.16	\$32,767,385	\$52,733,995	\$12,717,546,470
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend		5.00	3.11	\$79,761,189	\$128,363,191
Caltrain 2	4th/Townsend to Millbrae/SFO		28.61	17.78	\$35,293,741	\$57,604,443
Caltrain 3	Millbrae/SFO to Redwood City		18.75	11.65	\$37,489,586	\$60,333,640
Caltrain 4	Redwood City to Caltrain		0.75	0.47	\$88,577,366	\$142,551,453
Dumbarton (High Bridge)		Subtotal	28.71	17.84	\$67,921,596	\$109,309,214
Dumbarton-XN	Dumbarton Wye North to Caltrain		1.20	0.75	\$134,496,341	\$216,450,879
Dumbarton-1 (High Bridge)	Dumbarton Bay Crossing to Don Edwards		10.01	6.22	\$88,615,763	\$142,613,246
Dumbarton-2 (High Bridge)	Dumbarton Bay Crossing to Don Edwards		13.00	8.08	\$60,644,584	\$97,597,998
UPRR-1	Shinn to Niles Canyon		4.50	2.80	\$25,166,985	\$40,502,336
Niles/I-880 (West Oakland to Niles Junction)		Subtotal	44.26	27.50	\$36,053,254	\$58,022,088
Niles/I-880 1A	West Oakland to Jack London Square		9.04	5.62	\$57,292,648	\$92,203,579
Niles/I-880 2	Jack London Square to Oakland Coliseum		3.75	2.33	\$58,026,798	\$93,385,080
Niles/I-880 3A	Oakland Coliseum to Union City (BART)		8.02	4.98	\$100,347,026	\$161,492,885
Niles/I-880 4A	Union City (BART) to Niles Junction		23.45	14.57	\$2,359,136	\$3,796,662
Niles/I-880 (Niles Junction to San Jose via I-880)		Subtotal	22.45	13.95	\$49,012,551	\$78,878,055
Niles/I-880 5B	Niles Wye (S) to Warm Springs		8.45	5.25	\$16,691,618	\$26,862,555
Niles/I-880 6	Warm Springs to Trimble Rd		2.35	1.46	\$212,457,836	\$341,917,743
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon		11.65	7.24	\$39,485,982	\$63,546,529
East Bay Connection (Dumbarton/Niles XN &)		Subtotal	13.13	8.16	\$55,263,716	\$88,938,329
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)		4.25	2.64	\$35,018,018	\$56,356,037
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)		8.88	5.52	\$64,964,684	\$104,550,525
UPRR (Niles to Altamont)		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol		11.95	7.43	\$52,413,607	\$84,351,524
UPRR-3	Sunol to Pleasanton		1.10	0.68	\$134,433,359	\$216,349,520
UPRR-4	Pleasanton to El Charo		2.59	1.61	\$26,410,969	\$42,504,335
UPRR-5	El Charo to Livermore		6.61	4.10	\$7,127,268	\$11,470,225
UPRR-6	Livermore to Patterson Pass cut off		3.25	2.02	\$22,896,922	\$36,847,576
UPRR-7	Patterson Pass cut off to Greenville		2.98	1.85	\$18,326,922	\$29,494,322
UPRR-8	Greenville to Altamont Pass		11.27	7.00	\$53,967,010	\$86,851,484
UPRR-9	Altamont Pass to County Line		3.50	2.18	\$15,283,791	\$24,596,878
Tracy Downtown (UPRR Connection)		Subtotal	48.26	29.98	\$19,223,066	\$30,936,526
UPRR-10	County Line to Tracy Downtown		12.35	7.67	\$24,741,185	\$39,817,078
UPRR-11	Tracy Downtown to I-205		7.40	4.60	\$15,859,194	\$25,522,899
UPRR-12	I-205 to S. UPRRR		7.80	4.85	\$15,933,589	\$25,642,626
UPRR-13	I-205 to Lathrop - Northern		13.14	8.16	\$18,113,361	\$29,150,629
MC-1	Southwestern Manteca		1.46	0.91	\$27,687,372	\$44,558,506
MC-2	Southeastern Manteca		1.83	1.14	\$25,102,875	\$40,399,161
MC-4	Manteca to Escaton Wye		4.28	2.66	\$13,118,552	\$21,112,263
UPRR (Central Valley)		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop		8.00	4.97	\$13,627,270	\$21,930,965
UPRR N/S-2	Lathrop through Manteca		8.70	5.41	\$21,359,159	\$34,374,234
UPRR N/S-3	Manteca South to BNSF/UPRR		3.30	2.05	\$7,761,402	\$12,490,765
UPRR N/S-4	BNSF/UPRR South to Modesto		18.50	11.50	\$15,559,246	\$25,040,179
UPRR N/S-5a *	UPRR Modesto South - Western Option		4.20	2.61	\$84,115,056	\$135,370,061
UPRR N/S-6	South Modesto to BNSF Connection		20.90	12.99	\$21,150,677	\$34,038,714
UPRR N/S-7	BNSF Connection South to Merced		33.25	20.66	\$16,572,019	\$26,670,079
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th & King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S11	Union City (Shinn)					\$310,150,400
S3	West Oakland/7th Street					\$786,262,418
S9	Coliseum/Airport					\$29,076,600
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$69,853,070
S5	San Jose (Diridon)					\$185,051,790
S15	Pleasanton (I-680/Bernal Rd)					\$316,675,328
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length		Avg Cost		Segment/Station
		km	miles	\$/km	\$/mile	Costs
ALTAMONT PASS						
A4 - San Jose Terminus		257.78	160.18	\$26,497,928	\$42,644,282	\$6,830,741,966
<i>Niles/I-880 (Niles Junction to San Jose via I-880)</i>		Subtotal	22.45	13.95	\$49,012,551	\$78,878,055
Niles/I-880 5B	Niles Wye (S) to Warm Springs		8.45	5.25	\$16,691,618	\$26,862,555
Niles/I-880 6	Warm Springs to Trimble Rd		2.35	1.46	\$212,457,836	\$341,917,743
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon		11.65	7.24	\$39,485,982	\$63,546,529
<i>East Bay Connection (Dumbarton/Niles XS)</i>		Subtotal	8.88	5.52	\$64,964,684	\$104,550,525
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)		8.88	5.52	\$64,964,684	\$104,550,525
<i>UPRR (Niles to Altamont)</i>		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol		11.95	7.43	\$52,413,607	\$84,351,524
UPRR-3	Sunol to Pleasanton		1.10	0.68	\$134,433,359	\$216,349,520
UPRR-4	Pleasanton to El Charo		2.59	1.61	\$26,410,969	\$42,504,335
UPRR-5	El Charo to Livermore		6.61	4.10	\$7,127,268	\$11,470,225
UPRR-6	Livermore to Patterson Pass cut off		3.25	2.02	\$22,896,022	\$36,847,576
UPRR-7	Patterson Pass cut off to Greenville		2.98	1.85	\$18,326,922	\$29,494,322
UPRR-8	Greenville to Altamont Pass		11.27	7.00	\$53,967,010	\$86,851,484
UPRR-9	Altamont Pass to County Line		3.50	2.18	\$15,283,791	\$24,596,878
<i>Tracy Downtown (UPRR Connection)</i>		Subtotal	48.26	29.98	\$19,223,066	\$30,936,526
UPRR-10	County Line to Tracy Downtown		12.35	7.67	\$24,741,185	\$39,817,078
UPRR-11	Tracy Downtown to I-205		7.40	4.60	\$15,859,194	\$25,522,899
UPRR-12	I-205 to S. UPRR		7.80	4.85	\$15,933,589	\$25,642,626
UPRR-13	I-205 to Lathrop - Northern		13.14	8.16	\$18,113,361	\$29,150,629
MC-1	Southwestern Manteca		1.46	0.91	\$27,687,372	\$44,558,506
MC-2	Southeastern Manteca		1.83	1.14	\$25,102,875	\$40,399,161
MC-4	Manteca to Escaton Wye		4.28	2.66	\$13,118,552	\$21,112,263
<i>UPRR (Central Valley)</i>		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop		8.00	4.97	\$13,627,270	\$21,930,965
UPRR N/S-2	Lathrop through Manteca		8.70	5.41	\$21,359,159	\$34,374,234
UPRR N/S-3	Manteca South to BNSF/UPRR		3.30	2.05	\$7,761,402	\$12,490,765
UPRR N/S-4	BNSF/UPRR South to Modesto		18.50	11.50	\$15,559,246	\$25,040,179
UPRR N/S-5a *	UPRR Modesto South - Western Option		4.20	2.61	\$84,115,056	\$135,370,061
UPRR N/S-6	South Modesto to BNSF Connection		20.90	12.99	\$21,150,677	\$34,038,714
UPRR N/S-7	BNSF Connection South to Merced		33.25	20.66	\$16,572,019	\$26,670,079
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
STATION OPTIONS						
S12	Fremont (Warm Springs)					\$69,853,070
S5	San Jose (Diridon)					\$185,051,790
S15	Pleasanton (I-680/Bernal Rd)					\$316,675,328
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
ALTA MONT PASS						
A5 - San Francisco Terminus		308.27	191.55	\$30,154,261	\$48,528,578	\$9,295,774,550
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend	5.00	3.11	\$79,761,189	\$128,363,191	\$398,805,944
Caltrain 2	4th/Townsend to Millbrae/SFO	28.61	17.78	\$35,793,741	\$57,604,443	\$1,024,058,938
Caltrain 3	Millbrae/SFO to Redwood City	18.75	11.65	\$37,489,586	\$60,333,640	\$702,929,734
Caltrain 4	Redwood City to Caltrain	0.75	0.47	\$88,577,366	\$142,551,453	\$66,433,025
Dumbarton (High Bridge)		Subtotal	28.71	17.84	\$67,921,596	\$109,309,214
Dumbarton-XN	Dumbarton Wye North to Caltrain	1.20	0.75	\$134,496,341	\$216,450,879	\$161,395,609
Dumbarton-1 (High Bridge)	Dumbarton Bay Crossing to Don Edwards	10.01	6.22	\$88,615,763	\$142,613,246	\$886,866,552
Dumbarton-2 (High Bridge)	Dumbarton Bay Crossing to Don Edwards	13.00	8.08	\$60,644,584	\$97,597,998	\$788,379,595
UPRR-1	Shinn to Niles Canyon	4.50	2.80	\$25,166,985	\$40,502,336	\$113,251,431
UPRR (Niles to Altamont)		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
Tracy Downtown (UPRR Connection)		Subtotal	48.26	29.98	\$19,223,066	\$30,936,526
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-4	Manteca to Escatone Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
UPRR (Central Valley)		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th & King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S11	Union City (Shinn)					\$310,150,400
S15	Pleasanton (I-680/Bernal Rd)					\$316,675,328
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
ALTAMONT PASS						
A6 - Oakland Terminus		274.97	170.86	\$25,087,600	\$40,374,579	\$6,898,337,399
<i>Niles/I-880 (West Oakland to Niles Junction)</i>						
	Subtotal	44.26	27.50	\$36,053,254	\$58,022,088	\$1,595,717,028
Niles/I-880 1A	West Oakland to Jack London Square	9.04	5.62	\$7,292,648	\$92,203,579	\$517,810,948
Niles/I-880 2	Jack London Square to Oakland Coliseum	3.75	2.33	\$8,026,798	\$93,385,080	\$217,600,493
Niles/I-880 3A	Oakland Coliseum to Union City (BART)	8.02	4.98	\$100,347,026	\$161,492,885	\$804,983,844
Niles/I-880 4A	Union City (BART) to Niles Junction	23.45	14.57	\$2,359,136	\$3,796,662	\$85,321,742
<i>East Bay Connection (Dumbarton/Niles XN)</i>						
	Subtotal	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
<i>UPRR (Niles to Altamont)</i>						
	Subtotal	43.25	26.87	\$38,855,518	\$62,531,895	\$1,680,501,168
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
<i>Tracy Downtown (UPRR Connection)</i>						
	Subtotal	48.26	29.98	\$19,223,066	\$30,936,526	\$927,628,261
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
<i>UPRR (Central Valley)</i>						
	Subtotal	134.95	83.85	\$18,862,722	\$30,356,608	\$2,545,524,294
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S3	West Oakland/7th Street					\$611,197,055
S9	Coliseum/Airport					\$61,735,853
S10	Union City (BART)					\$69,853,070
S15	Pleasanton (I-680/Bernal Rd)					\$72,639,578
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
ALTAMONT PASS						
A7 - Union City Terminus		254.16	157.93	\$21,080,981	\$33,926,550	\$5,357,942,113
<i>Niles/I-880 (Union City BART to Niles Junction)</i>						
	<i>Subtotal</i>	23.45	14.57	\$2,359,136	\$3,796,662	\$55,321,742
Niles/I-880 4A	Union City (BART) to Niles Junction	23.45	14.57	\$2,359,136	\$3,796,662	\$55,321,742
<i>East Bay Connection (Dumbarton/Niles XN)</i>						
	<i>Subtotal</i>	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
<i>UPRR (Niles to Altamont)</i>						
	<i>Subtotal</i>	43.25	26.87	\$38,855,518	\$62,531,895	\$1,680,501,168
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
<i>Tracy Downtown (UPRR Connection)</i>						
	<i>Subtotal</i>	48.26	29.98	\$19,223,066	\$30,936,526	\$927,628,261
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
<i>UPRR (Central Valley)</i>						
	<i>Subtotal</i>	134.95	83.85	\$18,862,722	\$30,356,608	\$2,545,524,294
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S10	Union City (BART)					\$69,853,070
S15	Pleasanton (I-680/Bernal Rd)					\$316,675,328
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
ALTAMONT PASS						
A8 - San Francisco, and San Jose - via SF Peninsula		343.27	213.30	\$31,060,550	\$49,987,109	\$10,662,279,160
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend		5.00	3.11	\$79,761,189	\$128,363,191
Caltrain 2	4th/Townsend to Millbrae/SFO		28.61	17.78	\$35,793,741	\$57,604,443
Caltrain 3	Millbrae/SFO to Redwood City		18.75	11.65	\$37,489,586	\$60,333,640
Caltrain 4	Redwood City to Caltrain		0.75	0.47	\$88,577,366	\$142,551,453
Caltrain Corridor (Dumbarton to San Jose)		Subtotal	34.40	21.38	\$39,358,880	\$63,341,977
Caltrain 5	Caltrain Dumbarton Wye		1.62	1.01	\$24,593,435	\$39,579,297
Caltrain 6	Dumbarton Wye to Palo Alto		5.23	3.25	\$49,783,239	\$80,118,357
Caltrain 7	Palo Alto to Santa Clara		22.55	14.01	\$26,212,143	\$42,184,355
Caltrain 8	Santa Clara to Diridon Station		5.00	3.11	\$92,535,828	\$148,921,979
Dumbarton (High Bridge)		Subtotal	29.31	18.21	\$66,959,612	\$107,761,051
Dumbarton-XN	Dumbarton Wye North to Caltrain		1.20	0.75	\$134,496,341	\$216,450,879
Dumbarton-XS	Dumbarton Wye South to Caltrain		0.60	0.37	\$20,931,892	\$33,686,615
Dumbarton-1 (High Bridge)	Dumbarton Bay Crossing to Don Edwards		10.01	6.22	\$88,615,763	\$142,613,246
Dumbarton-2 (High Bridge)	Dumbarton Bay Crossing to Don Edwards		13.00	8.08	\$60,644,584	\$97,597,998
UPRR-1	Shinn to Niles Canyon		4.50	2.80	\$25,166,985	\$40,502,336
UPRR (Niles to Altamont)		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol		11.95	7.43	\$52,413,607	\$84,351,524
UPRR-3	Sunol to Pleasanton		1.10	0.68	\$134,433,359	\$216,349,520
UPRR-4	Pleasanton to El Charo		2.59	1.61	\$26,410,969	\$42,504,335
UPRR-5	El Charo to Livermore		6.61	4.10	\$7,127,268	\$11,470,225
UPRR-6	Livermore to Patterson Pass cut off		3.25	2.02	\$22,896,022	\$36,847,576
UPRR-7	Patterson Pass cut off to Greenville		2.98	1.85	\$18,326,922	\$29,494,322
UPRR-8	Greenville to Altamont Pass		11.27	7.00	\$53,967,010	\$86,851,484
UPRR-9	Altamont Pass to County Line		3.50	2.18	\$15,283,791	\$24,596,878
Tracy Downtown (UPRR Connection)		Subtotal	48.26	29.98	\$19,223,066	\$30,936,526
UPRR-10	County Line to Tracy Downtown		12.35	7.67	\$24,741,185	\$39,817,078
UPRR-11	Tracy Downtown to I-205		7.40	4.60	\$15,859,194	\$25,522,899
UPRR-12	I-205 to S. UPRR		7.80	4.85	\$15,933,589	\$25,642,626
UPRR-13	I-205 to Lathrop - Northern		13.14	8.16	\$18,113,361	\$29,150,629
MC-1	Southwestern Manteca		1.46	0.91	\$27,687,372	\$44,558,506
MC-2	Southeastern Manteca		1.83	1.14	\$25,102,875	\$40,399,161
MC-4	Manteca to Escaton Wye		4.28	2.66	\$13,118,552	\$21,112,263
UPRR (Central Valley)		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop		8.00	4.97	\$13,627,270	\$21,930,965
UPRR N/S-2	Lathrop through Manteca		8.70	5.41	\$21,359,159	\$34,374,234
UPRR N/S-3	Manteca South to BNSF/UPRR		3.30	2.05	\$7,761,402	\$12,490,765
UPRR N/S-4	BNSF/UPRR South to Modesto		18.50	11.50	\$15,559,246	\$25,040,179
UPRR N/S-5a *	UPRR Modesto South - Western Option		4.20	2.61	\$84,115,056	\$135,370,061
UPRR N/S-6	South Modesto to BNSF Connection		20.90	12.99	\$21,150,677	\$34,038,714
UPRR N/S-7	BNSF Connection South to Merced		33.25	20.66	\$16,572,019	\$26,670,079
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th & King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S8	Palo Alto (Caltrain)					\$67,516,558
S5	San Jose (Diridon)					\$185,051,790
S11	Union City (Shinn)					\$310,150,400
S15	Pleasanton (I-680/Bernal Rd)					\$316,675,328
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length		Avg Cost		Segment/Station Costs	
		km	miles	\$/km	\$/mile		
ALTA MONT PASS							
A9 - San Francisco, San Jose, and Oakland - with no San Francisco Bay Crossing		393.81	244.70	\$30,780,479	\$49,536,379	\$12,121,598,757	
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079	\$2,192,227,640
Caltrain 1	Transbay Transit Center to 4th/Townsend		5.00	3.11	\$79,761,189	\$128,363,191	\$398,805,944
Caltrain 2	4th/Townsend to Millbrae/SFO		28.61	17.78	\$35,793,741	\$57,604,443	\$1,024,058,938
Caltrain 3	Millbrae/SFO to Redwood City		18.75	11.65	\$37,489,586	\$60,333,640	\$702,929,734
Caltrain 4	Redwood City to Caltrain		0.75	0.47	\$88,577,366	\$142,551,453	\$66,433,025
Caltrain Corridor (Dumbarton to San Jose)		Subtotal	34.40	21.38	\$39,358,880	\$63,341,977	\$1,353,945,475
Caltrain 5	Caltrain Dumbarton Wye		1.62	1.01	\$24,593,435	\$39,579,297	\$39,865,958
Caltrain 6	Dumbarton Wye to Palo Alto		5.23	3.25	\$49,783,239	\$80,118,357	\$260,316,558
Caltrain 7	Palo Alto to Santa Clara		22.55	14.01	\$26,212,143	\$42,184,355	\$591,083,820
Caltrain 8	Santa Clara to Diridon Station		5.00	3.11	\$92,535,828	\$148,921,979	\$462,679,139
Niles/I-880 (West Oakland to Niles Junction)		Subtotal	44.26	27.50	\$36,053,254	\$58,022,088	\$1,595,717,028
Niles/I-880 1A	West Oakland to Jack London Square		9.04	5.62	\$57,292,648	\$92,203,579	\$517,810,948
Niles/I-880 2	Jack London Square to Oakland Coliseum		3.75	2.33	\$58,026,798	\$93,385,080	\$217,600,493
Niles/I-880 3A	Oakland Coliseum to Union City (BART)		8.02	4.98	\$100,347,026	\$161,492,885	\$804,983,844
Niles/I-880 4A	Union City (BART) to Niles Junction		23.45	14.57	\$2,359,136	\$3,796,662	\$55,321,742
Niles/I-880 (Niles Junction to San Jose via I-880)		Subtotal	22.45	13.95	\$49,012,551	\$78,878,055	\$1,100,331,777
Niles/I-880 5B	Niles Wye (S) to Warm Springs		8.45	5.25	\$16,691,618	\$26,862,555	\$141,044,170
Niles/I-880 6	Warm Springs to Trimble Rd		2.35	1.46	\$212,457,836	\$341,917,743	\$499,275,914
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon		11.65	7.24	\$39,485,982	\$63,546,529	\$460,011,694
East Bay Connection (Dumbarton/Niles XN & Dumbarton/Niles XS)		Subtotal	13.13	8.16	\$55,263,716	\$88,938,329	\$725,723,114
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)		4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)		8.88	5.52	\$64,964,684	\$104,550,525	\$576,756,466
UPRR (Niles to Altamont)		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895	\$1,680,501,188
UPRR-2A/2B	Niles Canyon to Sunol		11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton		1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo		2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore		6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off		3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville		2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass		11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line		3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
Tracy Downtown (UPRR Connection)		Subtotal	48.26	29.98	\$19,223,066	\$30,936,526	\$927,628,261
UPRR-10	County Line to Tracy Downtown		12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205		7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRR		7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern		13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca		1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca		1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-4	Manteca to Escaton Wye		4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
UPRR (Central Valley)		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608	\$2,545,524,259
UPRR N/S-1	French Camp to Lathrop		8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca		8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR		3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto		18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a *	UPRR Modesto South - Western Option		4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection		20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced		33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS							
S2	Transbay Transit Center						\$786,262,418
S1	4th and King (Caltrain)						\$791,939,278
S6	Millbrae/SFO						\$29,076,600
S7	Redwood City (Caltrain)						\$67,516,558
S8	Palo Alto (Caltrain)						\$67,516,558
S3	West Oakland/7th Street						\$611,197,055
S9	Coliseum/Airport						\$61,735,853
S10	Union City (BART)						\$69,853,070
S12	Fremont (Warm Springs)						\$156,875,180
S5	San Jose (Diridon)						\$185,051,790
S15	Pleasanton (I-680/Bernal Rd)						\$72,639,578
S17	Livermore (Downtown) (At Grade)						\$73,297,263
S18	Livermore (Downtown) (Aerial)						\$314,667,658
S20	Livermore (Greenville/UPRR)						\$72,639,578
S21	Tracy (Downtown)						\$310,150,400
S25	Modesto (Downtown)						\$71,428,053
S27	Merced (Downtown)						\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
ALTAMONT PASS						
A10 - Oakland and San Francisco - via Transbay Tube		289.11	179.64	\$37,563,667	\$60,452,862	\$10,860,031,797
<i>Transbay Crossing - Transbay Transit Center</i>						
	Subtotal	14.14	8.79	\$280,176,407	\$450,900,220	\$3,961,694,398
TB-1	Transbay Transit Center tube to SF Bay	4.33	2.69	\$144,822,423	\$233,069,097	\$627,081,091
TB-3	SF Bay to West Oakland	9.81	6.10	\$339,819,807	\$547,047,902	\$3,334,613,307
<i>Niles/I-880 (West Oakland to Niles Junction)</i>						
	Subtotal	44.26	27.50	\$36,053,254	\$58,022,088	\$1,595,717,028
Niles/I-880 1A	West Oakland to Jack London Square	9.04	5.62	\$7,292,648	\$92,203,579	\$517,810,948
Niles/I-880 2	Jack London Square to Oakland Coliseum	3.75	2.33	\$58,026,798	\$93,385,080	\$217,600,493
Niles/I-880 3A	Oakland Coliseum to Union City (BART)	8.02	4.98	\$100,347,026	\$161,492,885	\$804,983,844
Niles/I-880 4A	Union City (BART) to Niles Junction	23.45	14.57	\$2,359,136	\$3,796,662	\$55,321,742
<i>East Bay Connection (Dumbarton/Niles XN)</i>						
	Subtotal	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
<i>UPRR (Niles to Altamont)</i>						
	Subtotal	43.25	26.87	\$38,855,518	\$62,531,895	\$1,680,501,168
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
<i>Tracy Downtown (UPRR Connection)</i>						
	Subtotal	48.26	29.98	\$19,223,066	\$30,936,526	\$927,628,261
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-4	Manteca to Escatone Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
<i>UPRR (Central Valley)</i>						
	Subtotal	134.95	83.85	\$18,862,722	\$30,356,608	\$2,545,524,294
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S3	West Oakland/7th Street					\$786,262,418
S9	Coliseum/Airport					\$29,076,600
S10	Union City (BART)					\$69,853,070
S15	Pleasanton (I-680/Bernal Rd)					\$72,639,578
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
ALTAMONT PASS						
A11 - San Jose, Oakland and San Francisco - via Transbay Tube		320.44	199.11	\$39,124,948	\$62,965,500	\$12,537,120,041
Transbay Crossing - Transbay Transit Center		Subtotal	14.14	8.79	\$280,176,407	\$450,900,220
TB-1	Transbay Transit Center tube to SF Bay	4.33	2.69	\$144,822,423	\$233,069,097	\$627,081,091
TB-3	SF Bay to West Oakland	9.81	6.10	\$39,919,807	\$547,047,902	\$3,334,613,307
Niles/I-880 (West Oakland to Niles Junction)		Subtotal	44.26	27.50	\$36,053,254	\$58,022,088
Niles/I-880 1A	West Oakland to Jack London Square	9.04	5.62	\$7,292,648	\$92,203,579	\$517,810,948
Niles/I-880 2	Jack London Square to Oakland Coliseum	3.75	2.33	\$58,026,798	\$93,385,080	\$217,600,493
Niles/I-880 3A	Oakland Coliseum to Union City (BART)	8.02	4.98	\$100,347,026	\$161,492,885	\$804,983,844
Niles/I-880 4A	Union City (BART) to Niles Junction	23.45	14.57	\$2,359,136	\$3,796,662	\$55,321,742
Niles/I-880 (Niles Junction to San Jose via I-880)		Subtotal	22.45	13.95	\$49,012,551	\$78,878,055
Niles/I-880 5B	Niles Wye (S) to Warm Springs	8.45	5.25	\$16,691,618	\$26,862,555	\$141,044,170
Niles/I-880 6	Warm Springs to Trimble Rd	2.35	1.46	\$212,457,836	\$341,917,743	\$499,275,914
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon	11.65	7.24	\$39,485,982	\$63,546,529	\$460,011,694
East Bay Connection (Dumbarton/Niles XN & XS)		Subtotal	13.13	8.16	\$55,263,716	\$88,938,329
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)	8.88	5.52	\$64,964,684	\$104,550,525	\$576,756,466
UPRR (Niles to Altamont)		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
Tracy Downtown (UPRR Connection)		Subtotal	48.26	29.98	\$19,223,066	\$30,936,526
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
UPRR (Central Valley)		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S3	West Oakland/7th Street					\$786,262,418
S9	Coliseum/Airport					\$29,076,600
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$69,853,070
S5	San Jose (Diridon)					\$185,051,790
S15	Pleasanton (I-680/Bernal Rd)					\$72,639,578
S17	Livermore (Downtown) (At Grade)					\$73,297,263
S18	Livermore (Downtown) (Aerial)					\$314,667,658
S20	Livermore (Greenville/UPRR)					\$72,639,578
S21	Tracy (Downtown)					\$310,150,400
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

High-Speed Train Network Alternatives Cost Breakdown

Network Alternatives and Segments		Segment Length		Avg Cost		Segment/Station Costs
		km	miles	\$/km	\$/mile	
PACHECO PASS						
P1 - San Francisco and San Jose Termini		430.55	267.53	\$25,615,371	\$41,223,943	\$11,028,569,783
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend		5.00	3.11	\$79,761,189	\$128,363,191
Caltrain 2	4th/Townsend to Millbrae/SFO		28.61	17.78	\$35,793,741	\$57,604,443
Caltrain 3	Millbrae/SFO to Redwood City		18.75	11.65	\$37,489,586	\$60,333,640
Caltrain 4	Redwood City to Caltrain		0.75	0.47	\$88,577,366	\$142,551,453
Caltrain Corridor (Dumbarton to San Jose)		Subtotal	34.40	21.38	\$39,358,880	\$63,341,977
Caltrain 5	Caltrain Dumbarton Wye		1.62	1.01	\$24,593,435	\$39,579,297
Caltrain 6	Dumbarton Wye to Palo Alto		5.23	3.25	\$49,783,239	\$80,118,357
Caltrain 7	Palo Alto to Santa Clara		22.55	14.01	\$26,212,143	\$42,184,355
Caltrain 8	Santa Clara to Diridon Station		5.00	3.11	\$92,535,828	\$148,921,979
Pacheco (San Jose to Western Valley)		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill		32.50	20.19	\$20,366,713	\$32,777,047
Pacheco 2	Morgan Hill to Gilroy		16.00	9.94	\$23,730,117	\$38,189,921
Pacheco 3	Gilroy to San Luis Reservoir		44.00	27.34	\$57,896,982	\$93,176,161
Henry Miller (UPRR Connection)		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor		15.45	9.60	\$27,554,846	\$44,345,226
HM-1	Western Valley to Henry Miller UP Wye		58.05	36.07	\$10,870,134	\$17,493,785
HM-2	Henry Miller UP North Wye to UP South Wye		8.19	5.09	\$11,200,428	\$18,025,342
HM/UP-XN	Henry Miller Wye North to UPRR		11.25	6.99	\$11,845,555	\$19,063,573
HM/UP-XS	Henry Miller Wye South to UPRR		7.95	4.94	\$9,962,265	\$16,032,711
BNSF - UPRR		Subtotal	149.65	92.99	\$16,922,529	\$27,234,170
BNSF N/S 1	North Stockton South to UPRR Connection		17.50	10.87	\$8,299,538	\$13,356,812
BNSF N/S 2	BNSF Parallel to UPRR tracks		3.50	2.17	\$8,146,586	\$13,110,659
BNSF N/S 3	Parallel tracks South through Escaton		13.55	8.42	\$18,310,198	\$29,467,407
BNSF N/S 4	Escaton South to Amtrak Briggsmore		13.85	8.61	\$22,595,951	\$36,364,659
BNSF N/S 5	Amtrak Briggsmore to UPRR/BNSF Connection		39.85	24.76	\$17,070,256	\$27,471,913
BNSF N/S 6	UPRR/BNSF Connection to Atwater		6.30	3.91	\$17,380,925	\$27,971,887
BNSF N/S 7	Atwater to Downtown Merced		17.00	10.56	\$24,530,829	\$39,478,543
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th and King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S8	Palo Alto (Caltrain)					\$67,516,558
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045
S26	Briggsmore (Amtrak)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053
PACHECO PASS						
P2 - Oakland and San Jose Termini		413.40	256.87	\$25,025,334	\$40,274,372	\$10,345,348,109
Niles/I-880 (West Oakland to Niles Junction)		Subtotal	44.26	27.50	\$36,053,254	\$58,022,088
Niles/I-880 1A	West Oakland to Jack London Square		9.04	5.62	\$57,292,648	\$92,203,579
Niles/I-880 2	Jack London Square to Oakland Coliseum		3.75	2.33	\$58,026,798	\$93,385,080
Niles/I-880 3A	Oakland Coliseum to Union City (BART)		8.02	4.98	\$100,347,026	\$161,492,885
Niles/I-880 4A	Union City (BART) to Niles Junction		23.45	14.57	\$2,359,136	\$3,796,662
Niles/I-880 (Niles Junction to San Jose via I-880)		Subtotal	26.10	16.22	\$48,553,043	\$78,138,548
Niles/I-880 5A	Niles Junction to Niles Wye (S)		3.85	2.27	\$45,726,749	\$73,590,069
Niles/I-880 5B	Niles Wye (S) to Warm Springs		8.45	5.25	\$16,691,618	\$26,862,555
Niles/I-880 6	Warm Springs to Trimble Rd		2.35	1.46	\$212,457,836	\$341,917,743
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon		11.65	7.24	\$39,485,982	\$63,546,529
Pacheco (San Jose to Western Valley)		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill		32.50	20.19	\$20,366,713	\$32,777,047
Pacheco 2	Morgan Hill to Gilroy		16.00	9.94	\$23,730,117	\$38,189,921
Pacheco 3	Gilroy to San Luis Reservoir		44.00	27.34	\$57,896,982	\$93,176,161
Henry Miller (UPRR Connection)		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor		15.45	9.60	\$27,554,846	\$44,345,226
HM-1	Western Valley to Henry Miller UP Wye		58.05	36.07	\$10,870,134	\$17,493,785
HM-2	Henry Miller UP North Wye to UP South Wye		8.19	5.09	\$11,200,428	\$18,025,342
HM/UP-XN	Henry Miller Wye North to UPRR		11.25	6.99	\$11,845,555	\$19,063,573
HM/UP-XS	Henry Miller Wye South to UPRR		7.95	4.94	\$9,962,265	\$16,032,711
BNSF - UPRR		Subtotal	149.65	92.99	\$16,922,529	\$27,234,170
BNSF N/S 1	North Stockton South to UPRR Connection		17.50	10.87	\$8,299,538	\$13,356,812
BNSF N/S 2	BNSF Parallel to UPRR tracks		3.50	2.17	\$8,146,586	\$13,110,659
BNSF N/S 3	Parallel tracks South through Escaton		13.55	8.42	\$18,310,198	\$29,467,407
BNSF N/S 4	Escaton South to Amtrak Briggsmore		13.85	8.61	\$22,595,951	\$36,364,659
BNSF N/S 5	Amtrak Briggsmore to UPRR/BNSF Connection		39.85	24.76	\$17,070,256	\$27,471,913
BNSF N/S 6	UPRR/BNSF Connection to Atwater		6.30	3.91	\$17,380,925	\$27,971,887
BNSF N/S 7	Atwater to Downtown Merced		17.00	10.56	\$24,530,829	\$39,478,543
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
STATION OPTIONS						
S3	West Oakland/7th Street					\$611,197,055
S9	Coliseum/Airport					\$61,735,853
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$156,875,180
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045
S26	Briggsmore (Amtrak)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length		Avg Cost	Segment/Station	
		km	miles	\$/km	\$/mile	Costs
PACHECO PASS						
P3 - San Francisco, Oakland and San Jose Termini		498.26	309.60	\$27,880,345	\$44,869,066	\$13,891,521,223
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend	5.00	3.11	\$79,761,189	\$128,363,191	\$398,805,944
Caltrain 2	4th/Townsend to Millbrae/SFO	28.61	17.78	\$35,793,741	\$57,604,443	\$1,024,058,938
Caltrain 3	Millbrae/SFO to Redwood City	18.75	11.65	\$37,489,586	\$60,333,640	\$702,929,734
Caltrain 4	Redwood City to Caltrain	0.75	0.47	\$88,577,366	\$142,551,453	\$66,433,025
Caltrain Corridor (Dumbarton to San Jose)		Subtotal	34.40	21.38	\$39,358,880	\$63,341,977
Caltrain 5	Caltrain Dumbarton Wye	1.62	1.01	\$24,593,435	\$39,579,297	\$39,865,958
Caltrain 6	Dumbarton Wye to Palo Alto	5.23	3.25	\$49,783,239	\$80,118,357	\$260,316,558
Caltrain 7	Palo Alto to Santa Clara	22.55	14.01	\$26,212,143	\$42,184,355	\$591,083,820
Caltrain 8	Santa Clara to Diridon Station	5.00	3.11	\$92,535,828	\$148,921,979	\$462,679,139
Niles/I-880 (West Oakland to Niles Junction)		Subtotal	44.26	27.50	\$36,053,254	\$58,022,088
Niles/I-880 1A	West Oakland to Jack London Square	9.04	5.62	\$57,292,648	\$92,203,579	\$517,810,948
Niles/I-880 2	Jack London Square to Oakland Coliseum	3.75	2.33	\$58,026,798	\$93,385,080	\$217,600,493
Niles/I-880 3A	Oakland Coliseum to Union City (BART)	8.02	4.98	\$100,347,026	\$161,492,885	\$804,983,844
Niles/I-880 4A	Union City (BART) to Niles Junction	23.45	14.57	\$2,359,136	\$3,796,662	\$55,321,742
Niles/I-880 (Niles Junction to San Jose via I-880)		Subtotal	26.10	16.22	\$48,553,043	\$78,138,548
Niles/I-880 5A	Niles Junction to Niles Wye (S)	3.65	2.27	\$45,726,749	\$73,590,069	\$166,902,634
Niles/I-880 5B	Niles Wye (S) to Warm Springs	8.45	5.25	\$16,691,618	\$26,862,555	\$141,044,170
Niles/I-880 6	Warm Springs to Trimble Rd	2.35	1.46	\$212,457,836	\$341,917,743	\$499,275,914
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon	11.65	7.24	\$39,485,982	\$63,546,529	\$460,011,694
Pacheco (San Jose to Western Valley)		Subtotal	92.50	57.48	\$38,800,727	\$3,589,067,255
Pacheco 1	Diridon to Morgan Hill	32.50	20.19	\$20,366,713	\$32,777,047	\$661,918,165
Pacheco 2	Morgan Hill to Gilroy	16.00	9.94	\$23,730,117	\$38,189,921	\$379,681,864
Pacheco 3	Gilroy to San Luis Reservoir	44.00	27.34	\$7,896,982	\$93,176,161	\$2,547,467,226
Henry Miller (UPRR Connection)		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor	15.45	9.60	\$27,554,846	\$44,345,226	\$425,722,369
HM-1	Western Valley to Henry Miller UP Wye	58.05	36.07	\$10,870,134	\$17,493,785	\$630,967,784
HM-2	Henry Miller UP North Wye to UP South Wye	8.19	5.09	\$11,200,428	\$18,025,342	\$91,720,307
HM/UP-XN	Henry Miller Wye North to UPRR	11.25	6.99	\$11,845,555	\$19,063,573	\$133,262,493
HM/UP-XS	Henry Miller Wye South to UPRR	7.95	4.94	\$9,962,265	\$16,032,711	\$79,200,005
BNSF - UPRR		Subtotal	149.65	92.99	\$16,922,529	\$27,234,170
BNSF N/S 1	North Stockton South to UPRR Connection	17.50	10.87	\$8,299,538	\$13,356,812	\$145,241,919
BNSF N/S 2	BNSF Parallel to UPRR tracks	3.50	2.17	\$8,146,586	\$13,110,659	\$28,513,051
BNSF N/S 3	Parallel tracks South through Escaton	13.55	8.42	\$18,310,198	\$29,467,407	\$248,103,178
BNSF N/S 4	Escaton South to Amtrak Briggsmore	13.85	8.61	\$22,595,951	\$36,364,659	\$312,953,926
BNSF N/S 5	Amtrak Briggsmore to UPRR/BNSF Connection	39.85	24.76	\$17,070,256	\$27,471,913	\$680,249,686
BNSF N/S 6	UPRR/BNSF Connection to Atwater	6.30	3.91	\$17,380,925	\$27,971,887	\$109,499,827
BNSF N/S 7	Atwater to Downtown Merced	17.00	10.56	\$24,530,829	\$39,478,543	\$417,024,095
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th and King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S8	Palo Alto (Caltrain)					\$67,516,558
S3	West Oakland/7th Street					\$611,197,055
S9	Coliseum/Airport					\$61,735,853
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$156,875,180
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045
S26	Briggsmore (Amtrak)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
PACHECO PASS						
P4 - San Jose Terminus		343.04	213.15	\$21,812,342	\$35,103,561	\$7,482,396,668
Pacheco (San Jose to Western Valley)		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill	32.50	20.19	\$20,366,713	\$32,777,047	\$661,918,165
Pacheco 2	Morgan Hill to Gilroy	16.00	9.94	\$23,730,117	\$38,189,921	\$379,681,864
Pacheco 3	Gilroy to San Luis Reservoir	44.00	27.34	\$57,896,982	\$93,176,161	\$2,547,467,226
Henry Miller (UPRR Connection)		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor	15.45	9.60	\$27,554,846	\$44,345,226	\$425,722,369
HM-1	Western Valley to Henry Miller UP Wye	58.05	36.07	\$10,870,134	\$17,493,785	\$630,967,784
HM-2	Henry Miller UP North Wye to UP South Wye	8.19	5.09	\$11,200,428	\$18,025,342	\$91,720,307
HM/UP-XN	Henry Miller Wye North to UPRR	11.25	6.99	\$11,845,555	\$19,063,573	\$133,262,493
HM/UP-XS	Henry Miller Wye South to UPRR	7.95	4.94	\$9,962,265	\$16,032,711	\$79,200,005
BNSF - UPRR		Subtotal	149.65	92.99	\$16,922,529	\$27,234,170
BNSF N/S 1	North Stockton South to UPRR Connection	17.50	10.87	\$8,299,538	\$13,356,812	\$145,241,919
BNSF N/S 2	BNSF Parallel to UPRR tracks	3.50	2.17	\$8,146,586	\$13,110,659	\$28,513,051
BNSF N/S 3	Parallel tracks South through Escaton	13.55	8.42	\$18,310,198	\$29,467,407	\$248,103,178
BNSF N/S 4	Escaton South to Amtrak Briggsmore	13.85	8.61	\$22,595,951	\$36,364,659	\$312,953,926
BNSF N/S 5	Amtrak Briggsmore to UPRR/BNSF Connection	39.85	24.76	\$17,070,256	\$27,471,913	\$680,249,686
BNSF N/S 6	UPRR/BNSF Connection to Atwater	6.30	3.91	\$17,380,925	\$27,971,887	\$109,499,827
BNSF N/S 7	Atwater to Downtown Merced	17.00	10.56	\$24,530,829	\$39,478,543	\$417,024,095
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045
S26	Briggsmore (Amtrak)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053
PACHECO PASS						
P5 - San Jose, San Francisco and Oakland - via Transbay Tube		444.69	276.31	\$33,709,849	\$54,250,743	\$14,990,264,181
Transbay Crossing - Transbay Transit Center		Subtotal	14.14	8.79	\$280,176,407	\$450,900,220
TB-1	Transbay Transit Center tube to SF Bay	4.33	2.69	\$144,822,423	\$233,069,097	\$627,081,091
TB-3	SF Bay to West Oakland	9.81	6.10	\$339,919,807	\$547,047,902	\$3,334,613,307
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend	5.00	3.11	\$79,761,189	\$128,363,191	\$398,805,944
Caltrain 2	4th/Townsend to Millbrae/SFO	28.61	17.78	\$35,793,741	\$57,604,443	\$1,024,058,938
Caltrain 3	Millbrae/SFO to Redwood City	18.75	11.65	\$37,489,586	\$60,333,640	\$702,929,734
Caltrain 4	Redwood City to Caltrain	0.75	0.47	\$88,577,366	\$142,551,453	\$66,433,025
Caltrain Corridor (Dumbarton to San Jose)		Subtotal	34.40	21.38	\$39,358,880	\$63,341,977
Caltrain 5	Caltrain Dumbarton Wye	1.62	1.01	\$24,593,435	\$39,579,297	\$39,865,958
Caltrain 6	Dumbarton Wye to Palo Alto	5.23	3.25	\$49,783,239	\$80,118,357	\$260,316,558
Caltrain 7	Palo Alto to Santa Clara	22.55	14.01	\$26,212,143	\$42,184,355	\$591,083,820
Caltrain 8	Santa Clara to Diridon Station	5.00	3.11	\$92,535,828	\$148,921,979	\$462,679,139
Pacheco (San Jose to Western Valley)		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill	32.50	20.19	\$20,366,713	\$32,777,047	\$661,918,165
Pacheco 2	Morgan Hill to Gilroy	16.00	9.94	\$23,730,117	\$38,189,921	\$379,681,864
Pacheco 3	Gilroy to San Luis Reservoir	44.00	27.34	\$57,896,982	\$93,176,161	\$2,547,467,226
Henry Miller (UPRR Connection)		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor	15.45	9.60	\$27,554,846	\$44,345,226	\$425,722,369
HM-1	Western Valley to Henry Miller UP Wye	58.05	36.07	\$10,870,134	\$17,493,785	\$630,967,784
HM-2	Henry Miller UP North Wye to UP South Wye	8.19	5.09	\$11,200,428	\$18,025,342	\$91,720,307
HM/UP-XN	Henry Miller Wye North to UPRR	11.25	6.99	\$11,845,555	\$19,063,573	\$133,262,493
HM/UP-XS	Henry Miller Wye South to UPRR	7.95	4.94	\$9,962,265	\$16,032,711	\$79,200,005
BNSF - UPRR		Subtotal	149.65	92.99	\$16,922,529	\$27,234,170
BNSF N/S 1	North Stockton South to UPRR Connection	17.50	10.87	\$8,299,538	\$13,356,812	\$145,241,919
BNSF N/S 2	BNSF Parallel to UPRR tracks	3.50	2.17	\$8,146,586	\$13,110,659	\$28,513,051
BNSF N/S 3	Parallel tracks South through Escaton	13.55	8.42	\$18,310,198	\$29,467,407	\$248,103,178
BNSF N/S 4	Escaton South to Amtrak Briggsmore	13.85	8.61	\$22,595,951	\$36,364,659	\$312,953,926
BNSF N/S 5	Amtrak Briggsmore to UPRR/BNSF Connection	39.85	24.76	\$17,070,256	\$27,471,913	\$680,249,686
BNSF N/S 6	UPRR/BNSF Connection to Atwater	6.30	3.91	\$17,380,925	\$27,971,887	\$109,499,827
BNSF N/S 7	Atwater to Downtown Merced	17.00	10.56	\$24,530,829	\$39,478,543	\$417,024,095
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th and King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S8	Palo Alto (Caltrain)					\$67,516,558
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045
S26	Briggsmore (Amtrak)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
PACHECO PASS						
P6 - San Jose, Oakland and San Francisco - via Transbay Tube		427.54	265.66	\$33,464,026	\$53,855,130	\$14,307,042,507
Transbay Crossing - Transbay Transit Center		Subtotal	14.14	8.79	\$280,176,407	\$450,900,220
TB-1	Transbay Transit Center tube to SF Bay		4.33	2.69	\$144,822,423	\$233,069,097
TB-3	SF Bay to West Oakland		9.81	6.10	\$339,919,807	\$547,047,902
Niles/I-880 (West Oakland to Niles Junction)		Subtotal	44.26	27.50	\$36,053,254	\$58,022,088
Niles/I-880 1A	West Oakland to Jack London Square		9.04	5.62	\$7,292,648	\$92,203,579
Niles/I-880 2	Jack London Square to Oakland Coliseum		3.75	2.33	\$8,026,798	\$93,385,080
Niles/I-880 3A	Oakland Coliseum to Union City (BART)		8.02	4.98	\$100,347,026	\$161,492,885
Niles/I-880 4A	Union City (BART) to Niles Junction		23.45	14.57	\$2,359,136	\$3,796,662
Niles/I-880 (Niles Junction to San Jose via I-880)		Subtotal	26.10	16.22	\$48,553,043	\$78,138,548
Niles/I-880 5A	Niles Junction to Niles Wye (S)		3.65	2.27	\$45,726,749	\$73,590,069
Niles/I-880 5B	Niles Wye (S) to Warm Springs		8.45	5.25	\$16,691,618	\$26,862,555
Niles/I-880 6	Warm Springs to Trimble Rd		2.35	1.46	\$212,457,836	\$341,917,743
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon		11.65	7.24	\$39,485,982	\$63,546,529
Pacheco (San Jose to Western Valley)		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill		32.50	20.19	\$20,366,713	\$32,777,047
Pacheco 2	Morgan Hill to Gilroy		16.00	9.94	\$23,730,117	\$38,189,921
Pacheco 3	Gilroy to San Luis Reservoir		44.00	27.34	\$7,896,982	\$93,176,161
Henry Miller (UPRR Connection)		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor		15.45	9.60	\$27,554,846	\$44,345,226
HM-1	Western Valley to Henry Miller UP Wye		58.05	36.07	\$10,870,134	\$17,493,785
HM-2	Henry Miller UP North Wye to UP South Wye		8.19	5.09	\$11,200,428	\$18,025,342
HM/UP-XN	Henry Miller Wye North to UPRR		11.25	6.99	\$11,845,555	\$19,063,573
HM/UP-XS	Henry Miller Wye South to UPRR		7.95	4.94	\$9,962,265	\$16,032,711
BNSF - UPRR		Subtotal	149.65	92.99	\$16,922,529	\$27,234,170
BNSF N/S 1	North Stockton South to UPRR Connection		17.50	10.87	\$8,299,538	\$13,356,812
BNSF N/S 2	BNSF Parallel to UPRR tracks		3.50	2.17	\$8,146,586	\$13,110,659
BNSF N/S 3	Parallel tracks South through Escaton		13.55	8.42	\$18,310,198	\$29,467,407
BNSF N/S 4	Escaton South to Amtrak Briggsmore		13.85	8.61	\$22,595,951	\$36,364,659
BNSF N/S 5	Amtrak Briggsmore to UPRR/BNSF Connection		39.85	24.76	\$17,070,256	\$27,471,913
BNSF N/S 6	UPRR/BNSF Connection to Atwater		6.30	3.91	\$17,380,925	\$27,971,887
BNSF N/S 7	Atwater to Downtown Merced		17.00	10.56	\$24,530,829	\$39,478,543
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S3	West Oakland/7th Street					\$611,197,055
S9	Coliseum/Airport					\$61,735,853
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$156,875,180
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045
S26	Briggsmore (Amtrak)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
PACHECO PASS WITH ALTAMONT PASS (LOCAL SERVICE)						
AP1 - San Francisco and San Jose Termini		545.83	339.16	\$29,861,979	\$48,058,196	\$16,299,474,324
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend	5.00	3.11	\$79,761,189	\$128,363,191	\$398,805,944
Caltrain 2	4th/Townsend to Millbrae/SFO	28.61	17.78	\$35,793,741	\$57,604,443	\$1,024,058,938
Caltrain 3	Millbrae/SFO to Redwood City	18.75	11.65	\$37,489,586	\$60,333,640	\$702,929,734
Caltrain 4	Redwood City to Caltrain	0.75	0.47	\$88,577,366	\$142,551,453	\$66,433,025
Caltrain Corridor (Dumbarton to San Jose)		Subtotal	34.40	21.38	\$39,358,880	\$63,341,977
Caltrain 5	Caltrain Dumbarton Wye	1.62	1.01	\$24,593,435	\$39,579,297	\$39,865,958
Caltrain 6	Dumbarton Wye to Palo Alto	5.23	3.25	\$49,783,239	\$80,118,357	\$260,316,558
Caltrain 7	Palo Alto to Santa Clara	22.55	14.01	\$26,212,143	\$42,184,355	\$591,083,820
Caltrain 8	Santa Clara to Diridon Station	5.00	3.11	\$92,535,828	\$148,921,979	\$462,679,139
Dumbarton (High Bridge)		Subtotal	29.31	18.21	\$66,959,612	\$107,761,051
Dumbarton-XN	Dumbarton Wye North to Caltrain	1.20	0.75	\$134,496,341	\$216,450,879	\$161,395,609
Dumbarton-XS	Dumbarton Wye South to Caltrain	0.60	0.37	\$20,931,892	\$33,686,615	\$12,559,135
Dumbarton-1 (High Bridge)	Dumbarton Bay Crossing to Don Edwards	10.01	6.22	\$88,615,763	\$142,613,246	\$886,866,552
Dumbarton-2 (High Bridge)	Dumbarton Bay Crossing to Don Edwards	13.00	8.08	\$60,644,584	\$97,597,998	\$788,379,595
UPRR-1	Shinn to Niles Canyon	4.50	2.80	\$25,166,985	\$40,502,336	\$113,251,431
UPRR (Niles to Altamont)		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
Tracy Downtown (UPRR Connection)		Subtotal	57.42	35.68	\$28,122,096	\$45,258,126
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-3	Eastern Manteca UPRR South to BNSF	9.17	5.70	\$74,962,364	\$120,640,230	\$687,254,951
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
UPRR (Central Valley)		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
Pacheco (San Jose to Western Valley)		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill	32.50	20.19	\$20,366,713	\$32,777,047	\$661,918,165
Pacheco 2	Morgan Hill to Gilroy	16.00	9.94	\$23,730,117	\$38,189,921	\$379,681,864
Pacheco 3	Gilroy to San Luis Reservoir	44.00	27.34	\$57,896,982	\$93,176,161	\$2,547,467,226
Henry Miller (UPRR Connection)		Subtotal	108.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor	15.45	9.60	\$27,554,846	\$44,345,226	\$425,722,369
HM-1	Western Valley to Henry Miller UP Wye	58.05	36.07	\$10,870,134	\$17,493,785	\$630,967,784
HM-2	Henry Miller UP North Wye to UP South Wye	8.19	5.09	\$11,200,428	\$18,025,342	\$91,720,307
HM/UP-XN	Henry Miller Wye North to UPRR	11.25	6.99	\$11,845,555	\$19,063,573	\$133,262,493
HM/UP-XS	Henry Miller Wye South to UPRR	7.95	4.94	\$9,962,265	\$16,032,711	\$79,200,005
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th and King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S8	Palo Alto (Caltrain)					\$67,516,558
S29	Union City (Shinn)					\$300,146,665
S32	Pleasanton (I-680/Bernal Rd)					\$58,118,585
S34	Livermore (Downtown) (At Grade)					\$58,758,963
S35	Livermore (Downtown) (Aerial)					\$300,146,665
S37	Livermore (Greenville Road/UPRR)					\$58,118,585
S38	Tracy (Downtown)					\$300,146,665
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
PACHECO PASS WITH ALTAMONT PASS (LOCAL SERVICE)						
AP2 - Oakland and San Jose Termini		512.50	318.45	\$28,057,552	\$45,154,253	\$14,379,523,442
<i>Niles/I-880 (West Oakland to Niles Junction)</i>		Subtotal	44.26	27.50	\$36,053,254	\$58,022,088
Niles/I-880 1A	West Oakland to Jack London Square		9.04	5.62	\$7,292,648	\$92,203,579
Niles/I-880 2	Jack London Square to Oakland Coliseum		3.75	2.33	\$8,026,798	\$93,385,080
Niles/I-880 3A	Oakland Coliseum to Union City (BART)		8.02	4.98	\$100,347,026	\$161,492,885
Niles/I-880 4A	Union City (BART) to Niles Junction		23.45	14.57	\$2,359,136	\$3,796,662
<i>Niles/I-880 (Niles Junction to San Jose via I-880)</i>		Subtotal	26.10	16.22	\$48,553,043	\$78,138,548
Niles/I-880 5A	Niles Junction to Niles Wye (S)		3.65	2.27	\$45,726,749	\$73,590,069
Niles/I-880 5B	Niles Wye (S) to Warm Springs		8.45	5.25	\$16,691,618	\$26,862,555
Niles/I-880 6	Warm Springs to Trimble Rd		2.35	1.46	\$212,457,836	\$341,917,743
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon		11.65	7.24	\$39,485,982	\$63,546,529
<i>East Bay Connection (Dumbarton/Niles XN & YS)</i>		Subtotal	13.13	8.16	\$55,263,716	\$88,938,329
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)		4.25	2.64	\$35,018,018	\$56,356,037
Dumbarton/Niles YS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)		8.88	5.52	\$64,964,684	\$104,550,525
<i>UPRR (Niles to Altamont)</i>		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol		11.95	7.43	\$52,413,607	\$84,351,524
UPRR-3	Sunol to Pleasanton		1.10	0.68	\$134,433,359	\$216,349,520
UPRR-4	Pleasanton to El Charo		2.59	1.61	\$26,410,969	\$42,504,335
UPRR-5	El Charo to Livermore		6.61	4.10	\$7,127,268	\$11,470,225
UPRR-6	Livermore to Patterson Pass cut off		3.25	2.02	\$22,896,022	\$36,847,576
UPRR-7	Patterson Pass cut off to Greenville		2.98	1.85	\$18,326,922	\$29,494,322
UPRR-8	Greenville to Altamont Pass		11.27	7.00	\$53,967,010	\$86,851,484
UPRR-9	Altamont Pass to County Line		3.50	2.18	\$15,283,791	\$24,596,878
<i>Tracy Downtown (UPRR Connection)</i>		Subtotal	57.42	35.68	\$28,122,096	\$45,258,126
UPRR-10	County Line to Tracy Downtown		12.35	7.67	\$24,741,185	\$39,817,078
UPRR-11	Tracy Downtown to I-205		7.40	4.60	\$15,859,194	\$25,522,899
UPRR-12	I-205 to S. UPRRR		7.80	4.85	\$15,933,589	\$25,642,626
UPRR-13	I-205 to Lathrop - Northern		13.14	8.16	\$18,113,361	\$29,150,629
MC-1	Southwestern Manteca		1.46	0.91	\$27,687,372	\$44,558,506
MC-2	Southeastern Manteca		1.83	1.14	\$25,102,875	\$40,399,161
MC-3	Eastern Manteca UPRR South to BNSF		9.17	5.70	\$74,962,364	\$120,640,230
MC-4	Manteca to Escaton Wye		4.28	2.66	\$13,118,552	\$21,112,263
<i>UPRR (Central Valley)</i>		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop		8.00	4.97	\$13,627,270	\$21,930,965
UPRR N/S-2	Lathrop through Manteca		8.70	5.41	\$21,359,159	\$34,374,234
UPRR N/S-3	Manteca South to BNSF/UPRR		3.30	2.05	\$7,761,402	\$12,490,765
UPRR N/S-4	BNSF/UPRR South to Modesto		18.50	11.50	\$15,559,246	\$25,040,179
UPRR N/S-5a *	UPRR Modesto South - Western Option		4.20	2.61	\$84,115,056	\$135,370,061
UPRR N/S-6	South Modesto to BNSF Connection		20.90	12.99	\$21,150,677	\$34,038,714
UPRR N/S-7	BNSF Connection South to Merced		33.25	20.66	\$16,572,019	\$26,670,079
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
<i>Pacheco (San Jose to Western Valley)</i>		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill		32.50	20.19	\$20,366,713	\$32,777,047
Pacheco 2	Morgan Hill to Gilroy		16.00	9.94	\$23,730,117	\$38,189,921
Pacheco 3	Gilroy to San Luis Reservoir		44.00	27.34	\$57,896,982	\$93,176,161
<i>Henry Miller (UPRR Connection)</i>		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor		15.45	9.60	\$27,554,846	\$44,345,226
HM-1	Western Valley to Henry Miller UP Wye		58.05	36.07	\$10,870,134	\$17,493,785
HM-2	Henry Miller UP North Wye to UP South Wye		8.19	5.09	\$11,200,428	\$18,025,342
HM/UP-XN	Henry Miller Wye North to UPRR		11.25	6.99	\$11,845,555	\$19,063,573
HM/UP-XS	Henry Miller Wye South to UPRR		7.95	4.94	\$9,962,265	\$16,032,711
STATION OPTIONS						
S3	West Oakland/7th Street					\$611,197,055
S9	Coliseum/Airport					\$61,735,853
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$156,875,180
S32	Pleasanton (I-680/Bernal Rd)					\$58,118,585
S34	Livermore (Downtown) (At Grade)					\$58,758,963
S35	Livermore (Downtown) (Aerial)					\$300,146,665
S37	Livermore (Greenville Road/UPRR)					\$58,118,585
S38	Tracy (Downtown)					\$300,146,665
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
PACHECO PASS WITH ALTAMONT PASS (LOCAL SERVICE)						
AP3 - San Francisco, Oakland and San Jose Termini (with Dumbarton Bridge)		629.32	391.04	\$31,602,651	\$50,859,537	\$19,888,148,879
Caltrain Corridor (San Francisco to Dumbarton)		Subtotal	53.11	33.00	\$41,277,116	\$66,429,079
Caltrain 1	Transbay Transit Center to 4th/Townsend	5.00	3.11	\$79,761,189	\$128,363,191	\$398,805,944
Caltrain 2	4th/Townsend to Millbrae/SFO	28.61	17.78	\$35,793,741	\$57,604,443	\$1,024,058,938
Caltrain 3	Millbrae/SFO to Redwood City	18.75	11.65	\$37,489,586	\$60,333,640	\$702,929,734
Caltrain 4	Redwood City to Caltrain	0.75	0.47	\$88,577,366	\$142,551,453	\$66,433,025
Caltrain Corridor (Dumbarton to San Jose)		Subtotal	34.40	21.38	\$39,358,880	\$63,341,977
Caltrain 5	Caltrain Dumbarton Wye	1.62	1.01	\$24,593,435	\$39,579,297	\$39,865,958
Caltrain 6	Dumbarton Wye to Palo Alto	5.23	3.25	\$49,783,239	\$80,118,357	\$260,316,558
Caltrain 7	Palo Alto to Santa Clara	22.55	14.01	\$26,212,143	\$42,184,355	\$591,083,820
Caltrain 8	Santa Clara to Diridon Station	5.00	3.11	\$92,535,828	\$148,921,979	\$462,679,139
Dumbarton (High Bridge)		Subtotal	29.31	18.21	\$66,959,612	\$107,761,051
Dumbarton-XN	Dumbarton Wye North to Caltrain	1.20	0.75	\$134,496,341	\$216,450,879	\$161,395,609
Dumbarton-XS	Dumbarton Wye South to Caltrain	0.60	0.37	\$20,931,892	\$33,686,615	\$12,559,135
Dumbarton-1 (High Bridge)	Dumbarton Bay Crossing to Don Edwards	10.01	6.22	\$88,615,763	\$142,613,246	\$886,866,552
Dumbarton-2 (High Bridge)	Dumbarton Bay Crossing to Don Edwards	13.00	8.08	\$60,644,584	\$97,597,998	\$788,379,595
UPRR-1	Shinn to Niles Canyon	4.50	2.80	\$25,166,985	\$40,502,336	\$113,251,431
Niles/I-880 (West Oakland to Niles Junction)		Subtotal	44.26	27.50	\$36,053,254	\$58,022,088
Niles/I-880 1A	West Oakland to Jack London Square	9.04	5.62	\$57,292,648	\$92,203,579	\$517,810,948
Niles/I-880 2	Jack London Square to Oakland Coliseum	3.75	2.33	\$58,026,798	\$93,385,080	\$217,600,493
Niles/I-880 3A	Oakland Coliseum to Union City (BART)	8.02	4.98	\$100,347,026	\$161,492,885	\$804,983,844
Niles/I-880 4A	Union City (BART) to Niles Junction	23.45	14.57	\$2,359,136	\$3,796,662	\$55,321,742
Niles/I-880 (Niles Junction to San Jose via I-880)		Subtotal	26.10	16.22	\$48,553,043	\$78,138,548
Niles/I-880 5A	Niles Junction to Niles Wye (S)	3.65	2.27	\$45,726,749	\$73,590,069	\$186,902,634
Niles/I-880 5B	Niles Wye (S) to Warm Springs	8.45	5.25	\$16,691,618	\$26,862,555	\$141,044,170
Niles/I-880 6	Warm Springs to Trimble Rd	2.35	1.46	\$212,457,836	\$341,917,743	\$499,275,914
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon	11.65	7.24	\$39,485,982	\$63,546,529	\$460,011,694
East Bay Connection (Dumbarton/Niles XN & Dumbarton/Niles XS)		Subtotal	13.13	8.16	\$55,263,716	\$88,938,329
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)	8.88	5.52	\$64,964,684	\$104,550,525	\$576,756,466
UPRR (Niles to Altamont)		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.59	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
Tracy Downtown (UPRR Connection)		Subtotal	57.42	35.68	\$28,122,096	\$45,258,126
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-3	Eastern Manteca UPRR South to BNSF	9.17	5.70	\$74,962,364	\$120,640,230	\$687,254,951
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
UPRR (Central Valley)		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,159
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5a*	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
Pacheco (San Jose to Western Valley)		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill	32.50	20.19	\$20,366,713	\$32,777,047	\$661,918,165
Pacheco 2	Morgan Hill to Gilroy	16.00	9.94	\$23,730,117	\$38,189,921	\$379,681,864
Pacheco 3	Gilroy to San Luis Reservoir	44.00	27.34	\$57,896,982	\$93,176,161	\$2,547,467,226
Henry Miller (UPRR Connection)		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor	15.45	9.60	\$27,554,846	\$44,345,226	\$425,722,369
HM-1	Western Valley to Henry Miller UP Wye	58.05	36.07	\$10,870,134	\$17,493,785	\$630,967,784
HM-2	Henry Miller UP North Wye to UP South Wye	8.19	5.09	\$11,200,428	\$18,025,342	\$91,720,307
HM/UP-XN	Henry Miller Wye North to UPRR	11.25	6.99	\$11,845,555	\$19,063,573	\$133,262,493
HM/UP-XS	Henry Miller Wye South to UPRR	7.95	4.94	\$9,962,265	\$16,032,711	\$79,200,005
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th and King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S8	Palo Alto (Caltrain)					\$67,516,558
S29	Union City (Shinn)					\$300,146,665
S3	West Oakland/7th Street					\$611,197,055
S9	Coliseum/Airport					\$61,735,853
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$156,875,180
S32	Pleasanton (I-680/Bernal Rd)					\$58,118,585
S34	Livermore (Downtown) (At Grade)					\$58,758,963
S35	Livermore (Downtown) (Aerial)					\$300,146,665
S37	Livermore (Greenville Road/UPRR)					\$58,118,585
S38	Tracy (Downtown)					\$300,146,665
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
PACHECO PASS WITH ALTAMONT PASS (LOCAL SERVICE)						
AP4 - San Francisco, Oakland and San Jose Termini (without Dumbarton Bridge)		580.81	360.90	\$30,863,218	\$49,669,535	\$17,925,696,556
Caltrain Corridor (San Francisco to Dumbarton)		53.11	33.00	\$41,277,116	\$66,429,079	\$2,192,227,640
Caltrain 1	Transbay Transit Center to 4th/Townsend	5.00	3.11	\$79,761,189	\$128,363,191	\$398,805,944
Caltrain 2	4th/Townsend to Millbrae/SFO	28.61	17.78	\$35,793,741	\$57,604,443	\$1,024,058,938
Caltrain 3	Millbrae/SFO to Redwood City	18.75	11.65	\$37,489,586	\$60,333,640	\$702,929,734
Caltrain 4	Redwood City to Caltrain	0.75	0.47	\$88,577,366	\$142,551,453	\$66,433,025
Caltrain Corridor (Dumbarton to San Jose)		34.40	21.38	\$39,358,880	\$63,341,977	\$1,353,945,475
Caltrain 5	Caltrain Dumbarton Wye	1.62	1.01	\$24,593,435	\$39,579,297	\$39,865,958
Caltrain 6	Dumbarton Wye to Palo Alto	5.23	3.25	\$49,783,239	\$80,118,357	\$260,316,558
Caltrain 7	Palo Alto to Santa Clara	22.55	14.01	\$26,212,143	\$42,184,355	\$591,083,820
Caltrain 8	Santa Clara to Diridon Station	5.00	3.11	\$92,535,828	\$148,921,979	\$462,679,139
Niles/I-880 (West Oakland to Niles Junction)		44.26	27.50	\$36,053,254	\$58,022,088	\$1,595,717,028
Niles/I-880 1A	West Oakland to Jack London Square	9.04	5.62	\$57,292,648	\$92,203,579	\$517,810,948
Niles/I-880 2	Jack London Square to Oakland Coliseum	3.75	2.33	\$58,026,798	\$93,385,080	\$217,600,493
Niles/I-880 3A	Oakland Coliseum to Union City (BART)	8.02	4.98	\$100,347,026	\$161,492,885	\$804,983,844
Niles/I-880 4A	Union City (BART) to Niles Junction	23.45	14.57	\$2,359,136	\$3,796,662	\$55,321,742
Niles/I-880 (Niles Junction to San Jose via I-880)		26.10	16.22	\$48,553,043	\$78,138,548	\$1,267,234,412
Niles/I-880 5A	Niles Junction to Niles Wye (S)	3.65	2.27	\$45,726,749	\$73,590,069	\$166,902,634
Niles/I-880 5B	Niles Wye (S) to Warm Springs	8.45	5.25	\$16,691,618	\$26,862,555	\$141,044,170
Niles/I-880 6	Warm Springs to Trimble Rd	2.35	1.46	\$212,457,836	\$341,917,743	\$499,275,914
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon	11.65	7.24	\$39,485,982	\$63,546,529	\$460,011,694
East Bay Connection (Dumbarton/Niles XN &)		13.13	8.16	\$55,263,716	\$88,938,329	\$725,723,114
Dumbarton/Niles XN	Niles to Union City - Niles Wye (E) to Niles Wye (N)	4.25	2.64	\$35,018,018	\$56,356,037	\$148,966,648
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)	8.88	5.52	\$64,964,684	\$104,550,525	\$576,756,466
UPRR (Niles to Altamont)		43.25	26.87	\$38,855,518	\$62,531,895	\$1,680,501,168
UPRR-2A/2B	Niles Canyon to Sunol	11.95	7.43	\$52,413,607	\$84,351,524	\$626,342,602
UPRR-3	Sunol to Pleasanton	1.10	0.68	\$134,433,359	\$216,349,520	\$147,876,695
UPRR-4	Pleasanton to El Charo	2.99	1.61	\$26,410,969	\$42,504,335	\$68,510,055
UPRR-5	El Charo to Livermore	6.61	4.10	\$7,127,268	\$11,470,225	\$47,082,729
UPRR-6	Livermore to Patterson Pass cut off	3.25	2.02	\$22,896,022	\$36,847,576	\$74,412,071
UPRR-7	Patterson Pass cut off to Greenville	2.98	1.85	\$18,326,922	\$29,494,322	\$54,614,227
UPRR-8	Greenville to Altamont Pass	11.27	7.00	\$53,967,010	\$86,851,484	\$608,154,234
UPRR-9	Altamont Pass to County Line	3.50	2.18	\$15,283,791	\$24,596,878	\$53,508,554
Tracy Downtown (UPRR Connection)		57.42	35.68	\$28,122,096	\$45,258,126	\$1,614,883,212
UPRR-10	County Line to Tracy Downtown	12.35	7.67	\$24,741,185	\$39,817,078	\$305,553,641
UPRR-11	Tracy Downtown to I-205	7.40	4.60	\$15,859,194	\$25,522,899	\$117,358,035
UPRR-12	I-205 to S. UPRR	7.80	4.85	\$15,933,589	\$25,642,626	\$124,281,993
UPRR-13	I-205 to Lathrop - Northern	13.14	8.16	\$18,113,361	\$29,150,629	\$238,009,562
MC-1	Southwestern Manteca	1.46	0.91	\$27,687,372	\$44,558,506	\$40,340,501
MC-2	Southeastern Manteca	1.83	1.14	\$25,102,875	\$40,399,161	\$45,963,364
MC-3	Eastern Manteca UPRR South to BNSF	9.17	5.70	\$74,962,364	\$120,640,230	\$687,254,951
MC-4	Manteca to Escaton Wye	4.28	2.66	\$13,118,552	\$21,112,263	\$56,121,166
UPRR (Central Valley)		134.95	83.85	\$18,862,722	\$30,356,608	\$2,545,524,259
UPRR N/S-1	French Camp to Lathrop	8.00	4.97	\$13,627,270	\$21,930,965	\$109,018,199
UPRR N/S-2	Lathrop through Manteca	8.70	5.41	\$21,359,159	\$34,374,234	\$185,824,683
UPRR N/S-3	Manteca South to BNSF/UPRR	3.30	2.05	\$7,761,402	\$12,490,765	\$25,612,626
UPRR N/S-4	BNSF/UPRR South to Modesto	18.50	11.50	\$15,559,246	\$25,040,179	\$287,846,051
UPRR N/S-5 *	UPRR Modesto South - Western Option	4.20	2.61	\$84,115,056	\$135,370,061	\$353,283,237
UPRR N/S-6	South Modesto to BNSF Connection	20.90	12.99	\$21,150,677	\$34,038,714	\$442,049,140
UPRR N/S-7	BNSF Connection South to Merced	33.25	20.66	\$16,572,019	\$26,670,079	\$551,019,624
UPRR N/S-8	Merced South to BNSF Connection	4.75	2.95	\$32,162,740	\$51,760,913	\$152,773,015
UPRR N/S-9	BNSF Connection South to Henry Miller Wye	17.45	10.84	\$8,686,037	\$13,978,822	\$151,571,352
UPRR N/S-10	BNSF Henry Miller Wye	15.90	9.88	\$18,020,529	\$29,001,230	\$286,526,405
Pacheco (San Jose to Western Valley)		92.50	57.48	\$38,800,727	\$62,443,717	\$3,589,067,255
Pacheco 1	Diridon to Morgan Hill	32.50	20.19	\$20,366,713	\$32,777,047	\$661,918,165
Pacheco 2	Morgan Hill to Gilroy	16.00	9.94	\$23,730,117	\$38,189,921	\$379,681,864
Pacheco 3	Gilroy to San Luis Reservoir	44.00	27.34	\$57,896,982	\$93,176,161	\$2,547,467,226
Henry Miller (UPRR Connection)		81.69	50.76	\$16,660,011	\$26,811,688	\$1,360,872,958
Pacheco 4	San Luis Reservoir to Valley Floor	15.45	9.60	\$27,554,846	\$44,345,226	\$425,722,369
HM-1	Western Valley to Henry Miller UP Wye	58.05	36.07	\$10,870,134	\$17,493,785	\$630,967,784
HM-2	Henry Miller UP North Wye to UP South Wye	8.19	5.09	\$11,200,428	\$18,025,342	\$91,720,307
HM/UP-XN	Henry Miller Wye North to UPRR	11.25	6.99	\$11,845,555	\$19,063,573	\$133,262,493
HM/UP-XS	Henry Miller Wye South to UPRR	7.95	4.94	\$9,962,265	\$16,032,711	\$79,200,005
STATION OPTIONS						
S2	Transbay Transit Center					\$786,262,418
S1	4th and King (Caltrain)					\$791,939,278
S6	Millbrae/SFO					\$29,076,600
S7	Redwood City (Caltrain)					\$67,516,558
S8	Palo Alto (Caltrain)					\$67,516,558
S3	West Oakland/7th Street					\$611,197,055
S9	Coliseum/Airport					\$61,735,853
S10	Union City (BART)					\$69,853,070
S12	Fremont (Warm Springs)					\$156,875,180
S32	Pleasanton (I-680/Bernal Rd)					\$58,118,585
S34	Livermore (Downtown) (At Grade)					\$58,758,963
S35	Livermore (Downtown) (Aerial)					\$300,146,665
S37	Livermore (Greenville Road/UPRR)					\$58,118,585
S38	Tracy (Downtown)					\$300,146,665
S25	Modesto (Downtown)					\$71,428,053
S27	Merced (Downtown)					\$71,428,053
S5	San Jose (Diridon)					\$185,051,790
S24	Morgan Hill (Caltrain)					\$284,985,295
S23	Gilroy (Caltrain)					\$148,256,045

**High-Speed Train
Network Alternatives Cost Breakdown**

Network Alternatives and Segments		Segment Length km	Segment Length miles	Avg Cost \$/km	Avg Cost \$/mile	Segment/Station Costs
PACHECO PASS WITH ALTAMONT PASS (LOCAL SERVICE)						
AP5 - San Jose Terminus		460.34	286.04	\$27,084,369	\$43,588,067	\$12,467,937,131
<i>Niles/I-880 (Niles Junction to San Jose via I-880)</i>		Subtotal	22.45	13.95	\$49,012,551	\$78,878,055
Niles/I-880 5B	Niles Wye (S) to Warm Springs		8.45	5.25	\$16,691,618	\$26,862,555
Niles/I-880 6	Warm Springs to Trimble Rd		2.35	1.46	\$212,457,836	\$341,917,743
Niles/I-880 7A	I-880 - Trimble Rd. to Diridon		11.65	7.24	\$39,485,982	\$63,546,529
<i>East Bay Connection (Dumbarton/Niles XS)</i>		Subtotal	8.88	5.52	\$64,964,684	\$104,550,525
Dumbarton/Niles XS	Niles to Fremont - Niles Wye (E) to Niles Wye (S)		8.88	5.52	\$64,964,684	\$104,550,525
<i>UPRR (Niles to Altamont)</i>		Subtotal	43.25	26.87	\$38,855,518	\$62,531,895
UPRR-2A/2B	Niles Canyon to Sunol		11.95	7.43	\$52,413,607	\$84,351,524
UPRR-3	Sunol to Pleasanton		1.10	0.68	\$134,433,359	\$216,349,520
UPRR-4	Pleasanton to El Charo		2.59	1.61	\$26,410,969	\$42,504,335
UPRR-5	El Charo to Livermore		6.61	4.10	\$7,127,268	\$11,470,225
UPRR-6	Livermore to Patterson Pass cut off		3.25	2.02	\$22,896,022	\$36,847,576
UPRR-7	Patterson Pass cut off to Greenville		2.98	1.85	\$18,326,922	\$29,494,322
UPRR-8	Greenville to Altamont Pass		11.27	7.00	\$53,967,010	\$86,851,484
UPRR-9	Altamont Pass to County Line		3.50	2.18	\$15,283,791	\$24,596,878
<i>Tracy UP Connection (Tracy Downtown)</i>		Subtotal	57.42	35.68	\$28,122,096	\$45,258,126
UPRR-10	County Line to Tracy Downtown		12.35	7.67	\$24,741,185	\$39,817,078
UPRR-11	Tracy Downtown to I-205		7.40	4.60	\$15,859,194	\$25,522,899
UPRR-12	I-205 to S. UPRR		7.80	4.85	\$15,933,589	\$25,642,626
UPRR-13	I-205 to Lathrop - Northern		13.14	8.16	\$18,113,361	\$29,150,629
MC-1	Southwestern Manteca		1.46	0.91	\$27,687,372	\$44,558,506
MC-2	Southeastern Manteca		1.83	1.14	\$25,102,875	\$40,399,161
MC-3	Eastern Manteca UPRR South to BNSF		9.17	5.70	\$74,962,364	\$120,640,230
MC-4	Manteca to Escaton Wye		4.28	2.66	\$13,118,552	\$21,112,263
<i>UPRR (Central Valley)</i>		Subtotal	134.95	83.85	\$18,862,722	\$30,356,608
UPRR N/S-1	French Camp to Lathrop		8.00	4.97	\$13,627,270	\$21,930,965
UPRR N/S-2	Lathrop through Manteca		8.70	5.41	\$21,359,159	\$34,374,234
UPRR N/S-3	Manteca South to BNSF/UPRR		3.30	2.05	\$7,761,402	\$12,490,765
UPRR N/S-4	BNSF/UPRR South to Modesto		18.50	11.50	\$15,559,246	\$25,040,179
UPRR N/S-5a *	UPRR Modesto South - Western Option		4.20	2.61	\$84,115,056	\$135,370,061
UPRR N/S-6	South Modesto to BNSF Connection		20.90	12.99	\$21,150,677	\$34,038,714
UPRR N/S-7	BNSF Connection South to Merced		33.25	20.66	\$16,572,019	\$26,670,079
UPRR N/S-8	Merced South to BNSF Connection		4.75	2.95	\$32,162,740	\$51,760,913
UPRR N/S-9	BNSF Connection South to Henry Miller Wye		17.45	10.84	\$8,686,037	\$13,978,822
UPRR N/S-10	BNSF Henry Miller Wye		15.90	9.88	\$18,020,529	\$29,001,230
<i>Pacheco (San Jose to Western Valley)</i>		Subtotal	92.50	57.48	\$38,800,727	\$62,443,717
Pacheco 1	Diridon to Morgan Hill		32.50	20.19	\$20,366,713	\$32,777,047
Pacheco 2	Morgan Hill to Gilroy		16.00	9.94	\$23,730,117	\$38,189,921
Pacheco 3	Gilroy to San Luis Reservoir		44.00	27.34	\$7,896,982	\$93,176,161
<i>Henry Miller (UPRR Connection)</i>		Subtotal	100.89	62.69	\$13,489,349	\$21,709,003
Pacheco 4	San Luis Reservoir to Valley Floor		15.45	9.60	\$27,554,846	\$44,345,226
HM-1	Western Valley to Henry Miller UP Wye		58.05	36.07	\$10,870,134	\$17,493,785
HM-2	Henry Miller UP North Wye to UP South Wye		8.19	5.09	\$11,200,428	\$18,025,342
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* Option 5B more expensive by \$26,806,470.						